



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Bloebaum et al.

Serial No.: 09/660,519

Filing Date: September 12, 2000

Docket No.: 4015-785

Title: Position Detection System Integrated
Into Mobile Terminal

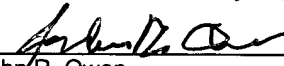
Examiner: Mr. Khawar Iqbal

Group Art Unit: 2686

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John R. Owen

APPEAL BRIEF

This Appeal Brief is being submitted not more than two months after the Notice of Appeal was received by the Office (December 22, 2004). As such, no extension of time fees should be due. A check for \$500.00 for the Appeal Brief Submission is enclosed. If any additional fees are due, and/or an extension time is required, the Office may consider this a petition therefore and charge any additional fees required to Deposit Account 18-1167.

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(1) REAL PARTY IN INTEREST

The real party in interest is Ericsson Inc., having an office in Research Triangle Park, North Carolina, the assignee of record, which is a subsidiary of Telefonaktiebolaget LM Ericsson of Sweden.

(2) RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences to the best of Applicant's knowledge.

(3) STATUS OF CLAIMS

Claims 1-13, 15-27, and 29-32 are pending in the application. Claims 14 and 28 have been canceled. The Examiner has rejected all pending claims. Accordingly, Applicant appeals the rejection of claims 1-13, 15-27, and 29-32.

(4) STATUS OF AMENDMENTS

All amendments have been entered.

(5) SUMMARY OF CLAIMED SUBJECT MATTER

Independent claim 1 is directed to a method of facilitating location detection for a mobile terminal. The method includes storing information relating to position detection assisting devices (e.g., GPS satellites 201) in a mobile terminal 100. Figure 5, block 300; page 15, lines 4-10. The stored information is referenced by the mobile terminal (block 304, page 15, lines 11-15) to determine a subset of the available position detection assisting devices (page 15, line 15 to page 16, line 8) that consists of only the position detection assisting devices that are both necessary and sufficient from which to

determine position (page 16, lines 13-18). After this determining, the mobile requests contemporary information about the subset from the mobile network 40 (page 16, lines 9-11). Also after the determining, the mobile begins acquisition of signals from the subset of the position detection devices (page 16, lines 19-21; cf. page 19, line 22 to page 20, line 3). The mobile network is described, *inter alia*, at page 6, line 3 to page 9, line 17. The mobile terminal is described, *inter alia*, at page 9, line 18 to page 12, line 21. See generally the flow chart of Figure 5.

Independent claim 15 is directed to a mobile terminal 100 that includes a transceiver (e.g., transmitter 138, receiver 150, and antenna assembly 158) and a control system 122 operatively connected to the transceiver. The control system stores information relating to a plurality of position detection assisting devices (e.g., GPS satellites 201) in a position detection system 200,220. Figure 5, block 300; page 15, lines 4-10. The control system also solicits contemporary information from a mobile network 40 via the transceiver (page 16, lines 9-11) relating to the subset of position detection assisting devices discussed below. The stored information is referenced by the mobile terminal (block 304, page 15, lines 11-15) to determine a subset of the available position detection assisting devices (page 15, line 15 to page 16, line 8) that consists of only the position detection assisting devices that are both necessary and sufficient from which to determine position (page 16, lines 13-18). Also after the determining, the mobile begins acquisition of signals from the subset of the position detection devices (page 16, lines 19-21; cf. page 19, line 22 to page 20, line 3). The mobile network is described, *inter alia*, at page 6, line 3 to page 9, line 17. The mobile

terminal is described, *inter alia*, at page 9, line 18 to page 12, line 21. See generally the flow chart of Figure 5.

Independent claim 21 is directed to a communication system 10 that includes a server 202 having contemporary information relating to a position detection system 200,220 and a mobile network 40. A mobile terminal 100 connects to the server through the mobile network. The mobile terminal stores information relating to a plurality of position detection assisting devices (e.g., GPS satellites 201) in a position detection system 200,220. Figure 5, block 300; page 15, lines 4-10. The mobile terminal also solicits contemporary information from the server based in part on the stored information. The stored information is referenced by the mobile terminal (block 304, page 15, lines 11-15) to determine a subset of the available position detection assisting devices (page 15, line 15 to page 16, line 8) that consists of only the position detection assisting devices that are both necessary and sufficient from which to determine position (page 16, lines 13-18). Also after the determining, the mobile begins acquisition of signals from the subset of the position detection devices (page 16, lines 19-21; cf. page 19, line 22 to page 20, line 3). The mobile network is described, *inter alia*, at page 6, line 3 to page 9, line 17. The mobile terminal is described, *inter alia*, at page 9, line 18 to page 12, line 21. See generally the flow chart of Figure 5.

Independent claim 27 is directed to a method of facilitating location detection for a mobile terminal. The method includes storing information relating to position detection assisting devices (e.g., GPS satellites 201) in a mobile terminal 100. Figure 5, block 300; page 15, lines 4-10. The stored information is referenced by the mobile terminal (block 304, page 15, lines 11-15) to determine a subset of the available position

detection assisting devices (page 15, line 15 to page 16, line 8) that consists of only the position detection assisting devices that are both necessary and sufficient from which to determine position (page 16, lines 13-18). After the determining, the mobile begins acquisition of signals from the subset of the position detection devices (page 16, lines 19-21; cf. page 19, line 22 to page 20, line 3). The mobile terminal receives signals from the position detection assisting devices that are actually visible to the mobile. Page 18, lines 15-17. The mobile terminal then requests contemporary information about the position detection devices that are actually visible from the mobile network 40 (page 19, lines 1-10). The mobile network is described, *inter alia*, at page 6, line 3 to page 9, line 17. The mobile terminal is described, *inter alia*, at page 9, line 18 to page 12, line 21. See generally the flow chart of Figure 6.

Independent claim 29 is directed to a method of facilitating location detection for a mobile terminal using a satellite positioning system. The method includes evaluating an almanac within a mobile terminal 100 to determine which satellites 201 are theoretically available (box 406, page 18, lines 1-14). The mobile terminal 100 secures accurate time information, doppler and code phase information, for satellites 201 that are theoretically available. Page 18, lines 1-14. Thereafter, the mobile terminal acquires a signal from one or more of the satellites that are theoretically visible. Page 18, lines 15-17. Based thereon, the mobile terminal determines which of the satellites that are actually available form a subset that consists of only the position detection assisting devices that are both necessary and sufficient from which to determine position (page 19, lines 5-10). The mobile terminal then requests ephemeris information about the satellites in the subset. Id. The satellite network is described,

inter alia, at page 13, lines 1-19; Figure 3. The mobile terminal is described, *inter alia*, at page 9, line 18 to page 12, line 21. See generally the flow chart of Figure 6.

(6) GROUNDS OF REJECTION

Claims 1-13, 15-27, and 29-31 are rejected under 35 U.S.C. §103 as being, according to the Examiner, "unpatentable over King et al (6313787) and further in view of Garin et al (6671620)."

The grounds for rejecting claim 32 are unclear. Applicant specifically pointed this out in the Response After Final (see the bottom of page 12 of said Response) and *specifically requested* that the Examiner clearly state the grounds of rejection for claim 32. However, the Examiner has failed to do so. As such, the basis for the rejection of claim 32 remains unstated by the Examiner, at least in a manner required by the Rules and MPEP. Nevertheless, in the interests of moving this case forward, this Appeal Brief will assume that claim 32 is rejected under §103 over King et al (6313787) in view of Garin et al (6671620), but the Examiner is again requested to clarify this point in the Examiner's Answer.

(7) ARGUMENTS RELATING TO THE §103 GROUND OF REJECTION

A. The Law of Obviousness under §103

The PTO has the burden under 35 U.S.C. §103 to establish a *prima facie* case of obviousness. In order to establish a *prima facie* case under §103, the Examiner must show 1) some suggestion or motivation to modify the primary reference or to combine the teachings of the references; 2) a reasonable expectation of success; and

3) that the prior art reference (or references, when combined) teach or suggest all the claim limitations. *E.g.*, *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974); MPEP §2143. Further, it must be noted that if an independent claim is non-obvious under §103, then any claim depending therefrom is non-obvious. *E.g.*, *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988); MPEP §2143.03.

When combining references, the PTO can satisfy this burden only by showing some objective teaching in the prior art, or knowledge generally available to one of ordinary skill in the art, that would motivate one to combine the relevant teachings of the references. *In re Fine*, 837 F.2d 1071, 1074, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. *ACS Hosp. Sys., Inc. v. Montefiore Hosp.*, 732 F.2d 1572, 1577, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984).

Whether or not a teaching, motivation, or suggestion exists that would lead one skilled in the art to select and combine references is central to the question of patentability with respect to obviousness. *In re Lee*, 61 U.S.P.Q.2d 1430, 1433 (Fed. Cir. 2002). Simply combining elements in a manner that reconstructs the applicant's invention only with the benefit of hindsight is insufficient with which to establish a *prima facie* case of obviousness. *In re Rouffet*, 149 F.3d 1350, 47 U.S.P.Q. 2d 1453 (Fed. Cir. 1998). There must be some reason, suggestion, or motivation found in the prior art that would lead a person of ordinary skill in the field of the invention to make the combination. That knowledge cannot come from the applicant's invention itself. *In re Oetiker*, 977 F.2d 1443, 24 U.S.P.Q.2d 1443 (Fed. Cir. 1992). Therefore, in advancing

a motivation to combine references, the Examiner must adequately address the issue of motivation to combine, specifically pointing out the reasoning supporting such a combination, and basing the reasoning on concrete evidence of record. *In re Lee, supra*.

Further, a proposed combination that creates an inoperable reference teaches away from the combination. As the Federal Circuit has pointed out, "references that teach away cannot serve to create a *prima facie* case of obviousness ... If references taken in combination would produce a 'seemingly inoperative device,' we have held that such references teach away from the combination and thus cannot serve as predicates for a *prima facie* case of obviousness," *McGinley v. Franklin Sports, Inc.*, 262 F.3d 1339 (Fed. Cir. 2001); *see also In re Sponnoble*, 405 F.2d 578 (C.C.P.A. 1969) (references teach away from combination if combination produces seemingly inoperative device); *In Re Gordon*, 733 F.2d 900 (Fed. Cir. 1984) (inoperable modification teaches away). Also, a proposed combination that runs counter to a objective of the primary reference must be considered as taught away from, and cannot be used to support a §103 rejection, *see Tec Air, Inc. v. Denso Mfg. Michigan Inc.*, 192 F.3d 1353 (Fed. Cir. 1999); *In re Gurley*, 27 F.3d 551 (Fed. Cir. 1994); *In re Rudko*, Civ. App. No. 98-1505 (Fed. Cir. May 14, 1999) (unpublished).

B. The Cited Art

U.S. Patent No. 6,313,787 ("King") discloses a method and apparatus for assisted GPS protocol. Relevant to the present invention, King discloses that a wireless communications device (e.g., mobile terminal) may include a GPS receiver. Further,

King discloses a method of using some "acquisition assistance data" in the mobile terminal to aid in GPS signal acquisition. Specifically, King discloses with reference to Figures 9A-9B that:

The GPS signal acquisition process is aided by Assistance Data which is transmitted from the cellular infrastructure in step 600: this data permits narrowing of Doppler and code phase search windows within the GPS receiver acquisition process, and so significantly speeds up the acquisition of the available GPS signals. Note that this step is common across all the protocol combinations. Once the acquisition assistance data is received, Pseudo Range (PR) measurements can be determined for the GPS signals of suitable signal strength in 602. Following this, a test 604 is made to determine if sufficient PRs are available to support a position fix: generally, four satellites are required to compute a fix; however, three satellites may be adequate if an altitude can be assumed or supplied from the infrastructure for the mobile handset. If sufficient satellites are available, the available ephemeris data is collected and examined 606, and the resultant fix accuracy is computed in step 608. If the predicted accuracy is adequate, appropriate correction data can be requested as in 616. If the accuracy is not adequate, however, a determination of which satellites' ephemeris data needs to be upgraded is made in 612, and requests are made for updated ephemeris for only these satellites in 614.

(King, col. 12, lines 6-28 (emphasis added)). Further, King goes on to describe how the appropriate correction data is requested at step 616:

Request Ephemeris/Clock Correction Update (mobile to network)
The point-to point ephemeris control messages permit a minimal control and transmission of raw ephemeris and clock correction data to the mobile. In this protocol, the MS informs the network which satellite ephemeris sets it contains in memory by presenting a list of SVID's and the satellite's corresponding IODE (Issue Of Data Ephemeris). In addition, the handset sends an ephemeris age limit ($t-t_{oe}$) that tells the network to send raw ephemeris for all presently visible satellites for which the handset ephemeris is now older than the ephemeris age limit specified. Finally, an ephemeris age override bit informs the network to ignore the ephemeris age limit and to deliver the raw ephemeris without regard to its age.

(King, col. 15, line 63 to col. 16, line 11 (emphasis added)). It is important to note several points about this King process. First, it is indisputably clear that Pseudo Range (PR) measurement are taken before any evaluation is made as to whether there are

sufficient number of satellites actually available to the mobile terminal. Thus, the signals from the satellites are acquired before any determination is made. Second, the King process may determine if there are enough satellites are available, but simply does not care if more than enough are available. Thus, King may determine if there are sufficient number of satellites are available, but does not care if all of the available satellites are necessary for the position fix to the desired accuracy. Third, when the King mobile terminal requests updated ephemeris data, it does so "for all presently visible satellites" (col. 16, lines 6-7), not just those sufficient to make a position determination, nor just those necessary and sufficient to make a position determination. Fourth, this process is used in all embodiments of King. (King, col. 12, lines 11-12.)

U.S. Patent No. 6,671,620 ("Garin") teaches a method and apparatus for determining global position using almanac information. Relative to the present invention, Garin teaches at col. 3, line 59 to col. 4, line 35 that the mobile terminal generates a "tentative satellite visibility list" based on almanac data stored in the mobile terminal's memory. The mobile then sends this tentative visibility list to a "fixed Position Determining Entity (PDE) 200." The PDE updates satellite position data that is off by more than a threshold and sends the corrected information to the mobile terminal. The mobile terminal then acquires the satellites in its visibility list and computes a geographic location. It is important to note several points about this Garin process. First, there is absolutely no mention whatsoever in Garin of any attempt to identify a subset of the theoretically visible satellites that are the minimum necessary and sufficient to determine position. Second, the Garin process description makes it clear that the mobile terminal is requesting updated satellite position information from the

PDE for all the satellites on the mobile terminal's "visibility list," or at least those where the data is stale, not just information on a subset of the visible satellites that have been determined to be necessary and sufficient from which to determine location.

C. The Examiner Has Not Established A Legally Proper Case for Obviousness

1. Claims 1-13

Independent claim 1 relates to a method that requires referencing information stored in a mobile terminal relating to position detection assisting devices (e.g., satellites) to determine "a subset consisting of only the position detection assisting devices necessary and sufficient from which to determine location," and after that determining, "beginning acquisition of position location assistance signals from said subset." Further, the claim requires "requesting contemporary information about said subset from a mobile network."

In rejecting this claim, the Examiner relies primarily on King, but asserts that "it would have been obvious ... to modify the device of King [] by specifically adding features after said determining by said mobile terminal, beginning acquisition of position location assistance signals from said subset of the position detection devices in order to received [sic] mobile position more accurately as taught by Garin," Final Rejection, page 3. There are at least five problems with the Examiner's logic.

First, the Examiner asserts that King teaches "determining a subset comprising only the position detection assisting devices necessary and sufficient from which to

determine location," Final Action page 11.¹ However, King simply does not teach this. As pointed out above, King may determine if there are sufficient number of satellites are available, but King simply does not care if all of the available satellites are necessary for the position fix to the desired accuracy. Thus, there is no determining in King of a subset of the satellites, with the subset "consisting of only the [satellites] necessary and sufficient from which to determine location." Thus, King simply does not make the showing asserted by the Examiner.

Second, the Examiner, in his rejection, completely fails to address the requirement of "requesting contemporary information about said subset from a mobile network" where the subset is one "consisting of only the position detection assisting devices necessary and sufficient from which to determine location." As pointed out above, King never establishes a subset that is "consisting of only the [satellites] necessary and sufficient from which to determine location." Because this necessary-and-sufficient-only-subset does not exist in King, it is simply impossible for King to request information about a necessary-and-sufficient-only-subset from the network. Yes, King may request information about some satellites from the network, but "some" is not what is required by the claim. Thus, King simply does not make this showing asserted by the Examiner.

Third, Garin does not cure either defect pointed out above. Applicant does not dispute that Garin requests updated information about satellites on its "visibility list." However, there is no indication in Garin that such a "visibility" list is limited to only those satellites that are both necessary and sufficient to determine location. Instead, a plain

¹ Note that the Examiner's comments were made with reference to dependent claim 14, but the limitations of claim 14 were subsequently added to claim 1.

reading of Garin reveals that the "visibility list" is a listing of all satellites that should theoretically be visible to the mobile terminal. Thus, while the Examiner asserts that Garin shows "after said determining by said mobile terminal, beginning acquisition" (Final Action, page 3), this statement is in plain error. "Said determining" refers to the determining of the necessary-and-sufficient-only-subset discussed above. Garin plainly does not do this determining, so the Examiner's assertion to the contrary is in error. Whatever Garin may do before beginning acquisition of the satellites, it is not the claimed process step of determining as alleged by the Examiner. Also, the Garin mobile terminal sends the entire "visibility list" to the PDE, and requests that the PDE perform appropriate updates. Thus, while Garin is concerned with its "visibility list," Garin nowhere determines the necessary-and-sufficient-only-subset discussed above, nor does it make any request for updates for only the non-existent necessary-and-sufficient-only-subset. Thus, Garin simply cannot cure the defects of King identified above. Accordingly, the combination of King and Garin does not show either claimed aspect.

Fourth, the modification of King per Garin as suggested by the Examiner cannot be accomplished. The specific modification of King put forth by the Examiner is "adding features after said determining by said mobile terminal, beginning acquisition of position location assistance signals from said subset of the position detection devices." Setting aside (for purposes of this point only) that "features" is nebulous at best, and that the claimed determining step is completely missing from King, the Examiner's modification of King is impossible. At best, the "determining" step of King is identifying those satellites that are actually visible to the mobile terminal, as indicated by their signal

strengths. However, in order to determine as required by King, the mobile must first begin acquisition of the satellites in order to make the signal strength measurements that are the pre-requisite of the King determining step. Thus, King requires acquisition to be started before determining is possible. The Examiner proposes to start acquisition after determining, but King requires acquisition to be started in order to be able to determine. As such, it is impossible to alter King to begin acquisition after determining because acquisition must have already started, or else the King "determining" cannot occur. It necessarily follows that the modification of King per Garin as suggested by the Examiner cannot be accomplished. Accordingly, Applicant submits that the Examiner has failed to set forth a prima facie case under §103.

Finally, the motivation put forth by the Examiner to modify King according to Garin is fundamentally flawed. The sole reason put forth by the Examiner for the modification is "in order to received mobile position more accurately." First, the phrase "received mobile position more accurately" seems nonsensical on its face. The phrase does not make grammatical sense, or even logical sense. One purpose of King and Garin, and the invention of claim 1, is determining mobile position. Thus, for purposes of this brief, it will be assumed that "received" is a typographical error, and that the Examiner meant "in order to *determine* mobile position more accurately." With this understanding, it is clear that such alleged motivation cannot support a modification to King along the lines proposed by the Examiner. The King process plainly includes checking to see if the "fix accuracy is adequate," see King, col. 12, lines 20-35. Indeed, a fundamental aspect of the King approach is to proceed with the position determination if the predicted accuracy is adequate, but "if the predicted accuracy is not adequate [] a

determination of which satellite's ephemeris data needs to be upgraded is made in 612, and requests are made for updated ephemeris," *id.* Further, it is plain that one purpose for this approach of King is to "minimize data transactions within the cellular network," by placing the control of the transfer of data in the mobile terminal, col. 12, lines 36-40. If King is checking the predicted accuracy of the position fix against a threshold, King would seem to be fully capable of determining "mobile position accurately," at least to a desired level of accuracy, meaning no modification of King is necessary. If, on the other hand, the King process is altered as suggested by the Examiner,² then it would seem that more data transfer between the mobile and the network would be required, which runs counter to the expressed objective of King. Thus, either the motivation for the modification is not truly present, or the King reference teaches away from the combination. Either way, the motivation put forth by the Examiner fails to meet the requirements of §103. In view of this, Applicant submits that the Examiner is merely attempting to engage in impermissible hindsight reconstruction of the invention.

Based on the above, Applicant submits that the Examiner has failed to put forth a legally sufficient *prima facie* case of obviousness under §103 for claim 1. Accordingly, Applicant requests that the rejection of claim 1 be reversed. As claims 2-13 depend directly or indirectly from claim 1, the rejection of these claims should be reversed for the same reasons.

2. Claims 15-18

Independent claim 15 relates to a mobile terminal that includes a control system, where the control system determines "a subset of the position detection assisting

² Assuming *arguendo* that such combination is somehow possible.

devices which are available from which to determine location based on said information, said subset consisting of only the position detection assisting devices necessary and sufficient from which to determine location, and wherein said control system thereafter causes acquisition of position assisting signals from said subset to be initiated."

In rejecting this claim, the Examiner relies primarily on King, but asserts that "it would have been obvious ... to modify the device of King [] by specifically adding features after said determining by said mobile terminal, beginning acquisition of position location assistance signals from said subset of the position detection devices in order to received [sic] mobile position more accurately as taught by Garin," Final Rejection, page 4. There are at least four problems with the Examiner's logic.

First, the Examiner asserts that King teaches "determining a subset comprising only the position detection assisting devices necessary and sufficient from which to determine location," Final Action page 11.³ However, King simply does not teach this. As pointed out above, King may determine if there are sufficient number of satellites are available, but King simply does not care if all of the available satellites are necessary for the position fix to the desired accuracy. Thus, King does not have logic to determine a subset of the satellites, with the subset "consisting of only the [satellites] necessary and sufficient from which to determine location." Thus, King simply does not make the showing on this point asserted by the Examiner.

Second, Garin does not cure either defect pointed out above. Applicant does not dispute that Garin requests updated information about satellites on its "visibility list."

³ Note that the Examiner has not addressed the necessary-and-sufficient-only-subset limitation in the context of claim 15. However, the Examiner has addressed a similar limitation in the context of claim 14. This brief assumes *arguendo* that the Examiner intends the same logic to apply to the rejection of claim 15, despite the absence of any explicit mention of this by the Examiner.

However, there is no indication in Garin that such a "visibility" list is limited to only those satellites that are both necessary and sufficient to determine location. Instead, a plain reading of Garin reveals that the "visibility list" is a listing of all satellites that should theoretically be visible to the mobile terminal. Thus, while the Examiner asserts that Garin shows "after said determining by said mobile terminal, beginning acquisition" (Final Action, page 4), this statement is in plainly in error. The relevant claim language is "determines ... subset consisting of only the position detection assisting devices necessary and sufficient... thereafter causes acquisition ... to be initiated." Garin plainly does not engage in the claimed determining, so the Examiner's assertion to the contrary is in error. Whatever the Garin device may do before beginning acquisition of the satellites, the Garin device does not have a control system that, prior to initiating acquisition, determines the claimed subset. Thus, Garin simply cannot cure the defect of King identified above. Accordingly, the combination of King and Garin does not show all the claimed limitations.

Third, the modification of King per Garin as suggested by the Examiner cannot be accomplished. The specific modification of King put forth by the Examiner is "adding features after said determining by said mobile terminal, beginning acquisition of position location assistance signals from said subset of the position detection devices." Again setting aside (for purposes of this point only) that "features" is nebulous at best, and that the claimed control system functionality related to "determines" is completely missing from King, the Examiner's modification of King is impossible. At best, the control logic of King that does any relevant "determining" merely identifies those satellites that are actually visible to the mobile terminal, as indicated by their signal strengths. However,

in order to determine as required by King, the King mobile must first begin acquisition of the satellites in order to make the signal strength measurements that are the necessary pre-requisite for King. Thus, King requires acquisition to be started before determining is possible. The Examiner proposes to start acquisition after the determination, but King requires acquisition to be started in order to be able to determine. As such, it is impossible to alter King to begin acquisition after determining because acquisition must have already started, or else the King "determining" cannot occur. It necessarily follows that the modification of King per Garin as suggested by the Examiner cannot be accomplished. Accordingly, Applicant submits that the Examiner has failed to set forth a prima facie case under §103.

Finally, the motivation put forth by the Examiner to modify King according to Garin is fundamentally flawed. The sole reason put forth by the Examiner for the modification is "in order to received mobile position more accurately." As pointed out above with reference to claim 1, the phrase "received mobile position more accurately" will be assumed for purposes of this brief to read "in order to *determine* mobile position more accurately." Again, the motivation to combine put forth by the Examiner cannot support a modification to King along the lines proposed by the Examiner. The King process plainly includes checking to see if the "fix accuracy is adequate," see King, col. 12, lines 20-35. Indeed, a fundamental aspect of the King approach is to proceed with the position determination if the predicted accuracy is adequate, but "if the predicted accuracy is not adequate [] a determination of which satellite's ephemeris data needs to be upgraded is made in 612, and requests are made for updated ephemeris," *id.* Further, it is plain that one purpose for this approach of King is to "minimize data

transactions within the cellular network," by placing the control of the transfer of data in the mobile terminal, col. 12, lines 36-40. If King is checking the predicted accuracy of the position fix against a threshold, King would seem to be fully capable of determining "mobile position accurately," at least to a desired level of accuracy, meaning no modification of King is necessary. If, on the other hand, the King process is altered as suggested by the Examiner,⁴ then it would seem that more data transfer between the mobile and the network would be required, which runs counter to the expressed objective of King. Thus, either the motivation for the modification is not truly present, or the King reference teaches away from the combination. Either way, the motivation put forth by the Examiner fails to meet the requirements of §103. In view of this, Applicant submits that the Examiner is merely attempting to engage in impermissible hindsight reconstruction of the invention.

Based on the above, Applicant submits that the Examiner has failed to put forth a legally sufficient prima facie case of obviousness under §103 for claim 15. Accordingly, Applicant requests that the rejection of claim 15 be reversed. As claims 16-18 depend directly or indirectly from claim 15, the rejection of these claims should be reversed for the same reasons.

3. Claim 19

Claim 19 depends directly from claim 15, and the rejection of claim 19 should be reversed for the reasons expressed above with respect to claim 15. In addition, claim 19 contains one or more limitations that have been completely ignored by the Examiner, thereby dooming the resulting §103 rejection of claim 19. In particular, claim 19

⁴ Assuming *arguendo* that such combination is somehow possible.

requires, *inter alia*, "said information relating to a plurality of position detection assisting devices comprises information about a terrestrial position detection system." In his rejection of claim 19 on page 10 of the Final Action, the Examiner completely fails to address this limitation. Indeed, the phrase and/or concept of a terrestrial position detection system does not appear to be anywhere in the Final Action. As such, Applicant submits that the Examiner has failed to put forth a legally sufficient prima facie case under §103 for the rejection of claim 19. Accordingly, Applicant requests that the rejection of claim 19 be reversed.

4. Claim 20

Claim 20 depends directly from claim 15, and the rejection of claim 20 should be reversed for the reasons expressed above with respect to claim 15. In addition, claim 20 contains one or more limitations that have been completely ignored by the Examiner, thereby dooming the resulting §103 rejection of claim 20. In particular, claim 20 requires, *inter alia*, "wherein said information relating to a plurality of position detection assisting devices comprises information relating to a mixed satellite based and terrestrial position detection system." In his rejection of claim 20 on page 10 of the Final Action, the Examiner completely fails to address this limitation. Indeed, the phrase and/or concept of a terrestrial position detection system does not appear to be anywhere in the Final Action, much less a mixed system. As such, Applicant submits that the Examiner has failed to put forth a legally sufficient prima facie case under §103 for the rejection of claim 20. Accordingly, Applicant requests that the rejection of claim 20 be reversed.

5. Claims 21-26

Independent claim 21 relates to a communication system that includes a mobile terminal that both determines "a subset of the position detection assisting devices which are available from which to determine location based on said information, said subset consisting of only the position detection assisting devices necessary and sufficient from which to determine location" and "thereafter initiates acquisition of position assisting signals from said subset."

In rejecting this claim, the Examiner relies primarily on King, but asserts that "it would have been obvious ... to modify the device of King [] by specifically adding features after said determining by said mobile terminal, beginning acquisition of position location assistance signals from said subset of the position detection devices in order to received [sic] mobile position more accurately as taught by Garin," Final Rejection, page 5. There are at least four problems with the Examiner's logic.

First, the Examiner asserts that King teaches "determining a subset comprising only the position detection assisting devices necessary and sufficient from which to determine location," Final Action page 11.⁵ However, King simply does not teach this. As pointed out above, King may determine if there are sufficient number of satellites are available, but King simply does not care if all of the available satellites are necessary for the position fix to the desired accuracy. Thus, King does not have logic to determine a

⁵ Note that the Examiner has not addressed the necessary-and-sufficient-only-subset limitation in the context of claim 21. However, the Examiner has addressed a similar limitation in the context of claim 14. This brief assumes *arguendo* that the Examiner intends the same logic to apply to the rejection of claim 21, despite the absence of any explicit mention of this by the Examiner.

subset of the satellites, with the subset "consisting of only the [satellites] necessary and sufficient from which to determine location." Thus, King simply does not make the showing on this point asserted by the Examiner.

Second, Garin does not cure either defect pointed out above. Applicant does not dispute that Garin requests updated information about satellites on its "visibility list." However, there is no indication in Garin that such a "visibility" list is limited to only those satellites that are both necessary and sufficient to determine location. Instead, a plain reading of Garin reveals that the "visibility list" is a listing of all satellites that should theoretically be visible to the mobile terminal. Thus, while the Examiner asserts that Garin shows "after said determining by said mobile terminal, beginning acquisition" (Final Action, page 4), this statement is in plainly in error. The relevant claim language is "determines a subset ... consisting of only the position detection assisting devices necessary and sufficient" and "thereafter initiates acquisition." Garin plainly does not engage in the claimed determining, so the Examiner's assertion to the contrary is in error. Whatever the Garin device may do before beginning acquisition of the satellites, the Garin mobile does not, prior to initiating acquisition, determine the claimed subset. Thus, Garin simply cannot cure the defect of King identified above. Accordingly, the combination of King and Garin does not show all the claimed limitations.

Third, the modification of King per Garin as suggested by the Examiner cannot be accomplished. The specific modification of King put forth by the Examiner is "adding features after said determining by said mobile terminal, beginning acquisition of position location assistance signals from said subset of the position detection devices." Again setting aside (for purposes of this point only) that "features" is nebulous at best, and that

the claimed mobile terminal functionality related to "determines" is completely missing from King, the Examiner's modification of King is impossible. At best, the relevant "determining" of the King mobile is merely identifying those satellites that are actually visible to the mobile terminal, as indicated by their signal strengths. However, in order to determine as required by King, the King mobile must first begin acquisition of the satellites in order to make the signal strength measurements that are the necessary pre-requisite for King. Thus, King requires acquisition to be started before determining is possible. The Examiner proposes to start acquisition after the determination, but King requires acquisition to be started in order to be able to determine. As such, it is impossible to alter King to begin acquisition after determining because acquisition must have already started, or else the King "determining" cannot occur. It necessarily follows that the modification of King per Garin as suggested by the Examiner cannot be accomplished. Accordingly, Applicant submits that the Examiner has failed to set forth a prima facie case under §103.

Finally, the motivation put forth by the Examiner to modify King according to Garin is fundamentally flawed. The sole reason put forth by the Examiner for the modification is "in order to received mobile position more accurately." As pointed out above with reference to claim 1, the phrase "received mobile position more accurately" will be assumed for purposes of this brief to read "in order to *determine* mobile position more accurately." Again, the motivation to combine put forth by the Examiner cannot support a modification to King along the lines proposed by the Examiner. The King process plainly includes checking to see if the "fix accuracy is adequate," see King, col. 12, lines 20-35. Indeed, a fundamental aspect of the King approach is to proceed with

the position determination if the predicted accuracy is adequate, but "if the predicted accuracy is not adequate [] a determination of which satellite's ephemeris data needs to be upgraded is made in 612, and requests are made for updated ephemeris," *id.*

Further, it is plain that one purpose for this approach of King is to "minimize data transactions within the cellular network," by placing the control of the transfer of data in the mobile terminal, col. 12, lines 36-40. If King is checking the predicted accuracy of the position fix against a threshold, King would seem to be fully capable of determining "mobile position accurately," at least to a desired level of accuracy, meaning no modification of King is necessary. If, on the other hand, the King process is altered as suggested by the Examiner,⁶ then it would seem that more data transfer between the mobile and the network would be required, which runs counter to the expressed objective of King. Thus, either the motivation for the modification is not truly present, or the King reference teaches away from the combination. Either way, the motivation put forth by the Examiner fails to meet the requirements of §103. In view of this, Applicant submits that the Examiner is merely attempting to engage in impermissible hindsight reconstruction of the invention.

Based on the above, Applicant submits that the Examiner has failed to put forth a legally sufficient prima facie case of obviousness under §103 for claim 21. Accordingly, Applicant requests that the rejection of claim 21 be reversed. As claims 20-26 depend directly or indirectly from claim 21, the rejection of these claims should be reversed for the same reasons.

⁶ Assuming *arguendo* that such combination is somehow possible.

6. Claim 27

Independent claim 27 relates to a method of facilitating location detection and requires a mobile terminal to determine "a subset [of the position detection assisting devices which are available from which to determine location] consisting of only the position detection assisting devices necessary and sufficient from which to determine location" and "after said determining ... beginning acquisition of position assisting signals from said subset."

In rejecting this claim, the Examiner relies primarily on King, but asserts that "it would have been obvious ... to modify the device of King [] by specifically adding features after said determining by said mobile terminal, beginning acquisition of position location assistance signals from said subset of the position detection devices in order to received [sic] mobile position more accurately as taught by Garin," Final Rejection, pages 6-7. There are at least four problems with the Examiner's logic.

First, the Examiner asserts that King teaches "determining a subset comprising only the position detection assisting devices necessary and sufficient from which to determine location," Final Action page 11.⁷ However, King simply does not teach this. As pointed out above, King may determine if there are sufficient number of satellites are available, but King simply does not care if all of the available satellites are necessary for the position fix to the desired accuracy. Thus, King does not have logic to determine a subset of the satellites, with the subset "consisting of only the [satellites] necessary and

⁷ Note that the Examiner has not addressed the necessary-and-sufficient-only-subset limitation in the context of claim 27. However, the Examiner has addressed a similar limitation in the context of claim 14. This brief assumes *arguendo* that the Examiner intends the same logic to apply to the rejection of claim 27, despite the absence of any explicit mention of this by the Examiner.

sufficient from which to determine location." Thus, King simply does not make the showing on this point asserted by the Examiner.

Second, Garin does not cure either defect pointed out above. Applicant does not dispute that Garin requests updated information about satellites on its "visibility list." However, there is no indication in Garin that such a "visibility" list is limited to only those satellites that are both necessary and sufficient to determine location. Instead, a plain reading of Garin reveals that the "visibility list" is a listing of all satellites that should theoretically be visible to the mobile terminal. Thus, while the Examiner asserts that Garin shows "after said determining by said mobile terminal, beginning acquisition" (Final Action, page 4), this statement is in plainly in error. The relevant claim language is "determining ... a subset consisting of only the position detection assisting devices necessary and sufficient" and "after said determining at said mobile terminal, beginning acquisition." Garin plainly does not engage in the claimed determining, so the Examiner's assertion to the contrary is in error. Thus, whatever the Garin device may do before beginning acquisition of the satellites, the Garin mobile does not, prior to initiating acquisition, determine the claimed subset. Thus, Garin simply cannot cure the defect of King identified above. Accordingly, the combination of King and Garin does not show all the claimed limitations.

Third, the modification of King per Garin as suggested by the Examiner cannot be accomplished. The specific modification of King put forth by the Examiner is "adding features after said determining by said mobile terminal, beginning acquisition of position location assistance signals from said subset of the position detection devices." Again setting aside (for purposes of this point only) that "features" is nebulous at best, and that

the claimed "determining" step is completely missing from King, the Examiner's modification of King is impossible. At best, the relevant "determining" of the King mobile is merely identifying those satellites that are actually visible to the mobile terminal, as indicated by their signal strengths. However, in order to determine as required by King, the King mobile must first begin acquisition of the satellites in order to make the signal strength measurements that are the necessary pre-requisite for King. Thus, King requires acquisition to be started before determining is possible. The Examiner proposes to start acquisition after the determination, but King requires acquisition to be started in order to be able to determine. As such, it is impossible to alter King to begin acquisition after determining because acquisition must have already started, or else the King "determining" cannot occur. It necessarily follows that the modification of King per Garin as suggested by the Examiner cannot be accomplished. Accordingly, Applicant submits that the Examiner has failed to set forth a prima facie case under §103.

Finally, the motivation put forth by the Examiner to modify King according to Garin is fundamentally flawed. The sole reason put forth by the Examiner for the modification is "in order to received mobile position more accurately." As pointed out above with reference to claim 1, the phrase "received mobile position more accurately" will be assumed for purposes of this brief to read "in order to *determine* mobile position more accurately." Again, the motivation to combine put forth by the Examiner cannot support a modification to King along the lines proposed by the Examiner. The King process plainly includes checking to see if the "fix accuracy is adequate," see King, col. 12, lines 20-35. Indeed, a fundamental aspect of the King approach is to proceed with the position determination if the predicted accuracy is adequate, but "if the predicted

accuracy is not adequate [] a determination of which satellite's ephemeris data needs to be upgraded is made in 612, and requests are made for updated ephemeris," *id.*

Further, it is plain that one purpose for this approach of King is to "minimize data transactions within the cellular network," by placing the control of the transfer of data in the mobile terminal, col. 12, lines 36-40. If King is checking the predicted accuracy of the position fix against a threshold, King would seem to be fully capable of determining "mobile position accurately," at least to a desired level of accuracy, meaning no modification of King is necessary. If, on the other hand, the King process is altered as suggested by the Examiner,⁸ then it would seem that more data transfer between the mobile and the network would be required, which runs counter to the expressed objective of King. Thus, either the motivation for the modification is not truly present, or the King reference teaches away from the combination. Either way, the motivation put forth by the Examiner fails to meet the requirements of §103. In view of this, Applicant submits that the Examiner is merely attempting to engage in impermissible hindsight reconstruction of the invention.

Based on the above, Applicant submits that the Examiner has failed to put forth a legally sufficient prima facie case of obviousness under §103 for claim 27. Accordingly, Applicant requests that the rejection of claim 27 be reversed.

7. Claims 29-31

Independent claim 29 is directed to a method that requires the mobile terminal to, *inter alia*, determine[] which of said one or more satellites from which signals are

⁸ Assuming *arguendo* that such combination is somehow possible.

acquired form⁹ a subset of the theoretically available satellites consisting of only the position detection assisting devices necessary and sufficient from which to determine location."

In rejecting this claim, the Examiner relies primarily on King, but asserts that "it would have been obvious ... to modify the device of King [] by specifically adding features after said determining by said mobile terminal, beginning acquisition of position location assistance signals from said subset of the position detection devices in order to received [sic] mobile position more accurately as taught by Garin," Final Rejection, page 7-9. There are at least four problems with the Examiner's logic.

First, the Examiner asserts that King teaches "determining a subset comprising only the position detection assisting devices necessary and sufficient from which to determine location," Final Action page 11.¹⁰ However, King simply does not teach this. As pointed out above, King may determine if there are sufficient number of satellites are available, but King simply does not care if all of the available satellites are necessary for the position fix to the desired accuracy. Thus, King does not have logic to determine a subset of the satellites, with the subset "consisting of only the [satellites] necessary and sufficient from which to determine location." Thus, King simply does not make the showing on this point asserted by the Examiner.

⁹ Applicant notes that the last amendment introduced an inadvertent typographical error to the claim. The amendment read "...acquired from a subset...", but should have read "...acquired form a subset..." This error is apparent from a reading of the claim. This appeal brief argues the claim with the typographical error removed and the Board's indulgence on this point is requested. The claim will be amended on this point once the substantive §103 issue is resolved.

¹⁰ Note that the Examiner has not addressed the necessary-and-sufficient-only-subset limitation in the context of claim 29. However, the Examiner has addressed a similar limitation in the context of claim 14. This brief assumes *arguendo* that the Examiner intends the same logic to apply to the rejection of claim 29, despite the absence of any explicit mention of this by the Examiner.

Second, Garin does not cure either defect pointed out above. Applicant does not dispute that Garin requests updated information about satellites on its "visibility list." However, there is no indication in Garin that such a "visibility" list is limited to only those satellites that are both necessary and sufficient to determine location. Instead, a plain reading of Garin reveals that the "visibility list" is a listing of all satellites that should theoretically be visible to the mobile terminal. Whatever the Garin device may do before beginning acquisition of the satellites, the Garin mobile does not, prior to initiating acquisition, determine the claimed subset. Thus, Garin does not cure the defect of King identified above. Accordingly, the combination of King and Garin does not show all the claimed limitations.

Third, the modification of King per Garin as suggested by the Examiner cannot be accomplished. The specific modification of King put forth by the Examiner is "adding features after said determining by said mobile terminal, beginning acquisition of position location assistance signals from said subset of the position detection devices." Again setting aside (for purposes of this point only) that "features" is nebulous at best, and that the claimed mobile terminal functionality related to "determines" is completely missing from King, the Examiner's modification of King is impossible. At best, the relevant "determining" of the King mobile is merely identifying those satellites that are actually visible to the mobile terminal, as indicated by their signal strengths. However, in order to determine as required by King, the King mobile must first begin acquisition of the satellites in order to make the signal strength measurements that are the necessary pre-requisite for King. Thus, King requires acquisition to be started before determining is possible. The Examiner proposes to start acquisition after the determination, but King

requires acquisition to be started in order to be able to determine. As such, it is impossible to alter King to begin acquisition after determining because acquisition must have already started, or else the King "determining" cannot occur. It necessarily follows that the modification of King per Garin as suggested by the Examiner cannot be accomplished. Accordingly, Applicant submits that the Examiner has failed to set forth a *prima facie* case under §103.

Finally, the motivation put forth by the Examiner to modify King according to Garin is fundamentally flawed. The sole reason put forth by the Examiner for the modification is "in order to received mobile position more accurately." As pointed out above with reference to claim 1, the phrase "received mobile position more accurately" will be assumed for purposes of this brief to read "in order to *determine* mobile position more accurately." Again, the motivation to combine put forth by the Examiner cannot support a modification to King along the lines proposed by the Examiner. The King process plainly includes checking to see if the "fix accuracy is adequate," see King, col. 12, lines 20-35. Indeed, a fundamental aspect of the King approach is to proceed with the position determination if the predicted accuracy is adequate, but "if the predicted accuracy is not adequate [] a determination of which satellite's ephemeris data needs to be upgraded is made in 612, and requests are made for updated ephemeris," *id.* Further, it is plain that one purpose for this approach of King is to "minimize data transactions within the cellular network," by placing the control of the transfer of data in the mobile terminal, col. 12, lines 36-40. If King is checking the predicted accuracy of the position fix against a threshold, King would seem to be fully capable of determining "mobile position accurately," at least to a desired level of accuracy, meaning no

modification of King is necessary. If, on the other hand, the King process is altered as suggested by the Examiner,¹¹ then it would seem that more data transfer between the mobile and the network would be required, which runs counter to the expressed objective of King. Thus, either the motivation for the modification is not truly present, or the King reference teaches away from the combination. Either way, the motivation put forth by the Examiner fails to meet the requirements of §103. In view of this, Applicant submits that the Examiner is merely attempting to engage in impermissible hindsight reconstruction of the invention.

Based on the above, Applicant submits that the Examiner has failed to put forth a legally sufficient prima facie case of obviousness under §103 for claim 29. Accordingly, Applicant requests that the rejection of claim 29 be reversed. As claims 30-31 depend directly or indirectly from claim 29, the rejection of these claims should be reversed for the same reasons.

8. Claim 32

Claim 32 depends directly from claim 1, and the rejection of claim 32 should be reversed for the reasons expressed above with respect to claim 1. In addition, Applicant notes that claim 32 adds the express limitation of "wherein said requesting contemporary information occurs prior to said beginning acquisition of position location assistance signals from said subset of the position detection devices." This claim language makes it abundantly clear that both the determining of the necessary-and-sufficient-only-subset and the requesting of contemporary information about the

¹¹ Assuming *arguendo* that such combination is somehow possible.

necessary-and-sufficient-only-subset both occur prior to the beginning of signal acquisition.

As pointed out above with respect to claim 1, whatever requesting of contemporary information King may or may not do is plainly happening only after the beginning of signal acquisition from the GPS satellites. As such, King does not show the limitation added by claim 32. Further, the Examiner, in giving the grounds for rejection of claim 32 on page 6 of the Final Action, does not make any attempt to address this added limitation. The Examiner does not allege that King shows this, nor does the Examiner allege that Garin shows this. Indeed, the Examiner mysteriously discusses claim 32 in the context of independent claim 27, when claim 32 plainly depends from claim 1. In short, the record plainly shows that the Examiner has completely failed to even suggest that either King or Garin show the added limitation, or that a combination of King and Garin show the limitation, or even how King and Garin would be combined relevant to the limitation added by claim 32. In view of this, Applicant submits that the Examiner has failed to establish a legally sufficient prima facie case of obviousness under §103 for claim 32. Accordingly, Applicant requests that the rejection of claim 32 (assuming claim 32 is rejected, see discussion above) be reversed.

Conclusion

For the reasons set forth above, Applicant submits that the Examiner has failed to establish a case for obviousness of the claims as required under the law, and that all claims being appealed herein are patentable over the cited art.

Respectfully submitted,
COATS & BENNETT, P.L.L.C.

A handwritten signature in black ink, appearing to read "John R. Owen", is written over a horizontal line.

Dated: February 21, 2005

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(8) CLAIMS APPENDIX

1. A method of facilitating location detection, comprising:

storing information relating to position detection assisting devices in a mobile terminal;

referencing said information to determine, by said mobile terminal, a subset of the position detection assisting devices which are available from which to determine location, wherein referencing said information to determine a subset of the position detection assisting devices which are available comprises determining, by said mobile terminal, a subset consisting of only the position detection assisting devices necessary and sufficient from which to determine location;

requesting contemporary information about said subset from a mobile network;
and

after said determining by said mobile terminal, beginning acquisition of position location assistance signals from said subset of the position detection devices.

2. The method of claim 1 further comprising receiving an inquiry as to the present location of the mobile terminal.

3. The method of claim 2 wherein receiving an inquiry as to the present location of the mobile terminal originates in the mobile terminal.

4. The method of claim 2 wherein receiving an inquiry as to the present location of the mobile terminal originates in a mobile network associated with the mobile terminal.

5. The method of claim 2 wherein receiving an inquiry as to the present location of the mobile terminal originates in a server communicatively connected to a mobile network associated with the mobile terminal.

6. The method of claim 1 wherein requesting contemporary information about said subset from a mobile network comprises evaluating a time stamp to determine whether the mobile terminal already has contemporary information about one or more position detection assisting devices in said subset.

7. The method of claim 6 wherein requesting contemporary information comprises requesting contemporary information about only those in said subset about whom contemporary information is not available in the mobile terminal.

8. The method of claim 6 wherein evaluating a time stamp comprises evaluating a time stamp to determine if said time stamp falls within a predetermined threshold.

9. The method of claim 8 wherein evaluating a time stamp to determine if said time stamp falls within a predetermined threshold comprises evaluating if said time stamp is more than four hours old.

10. The method of claim 1 wherein requesting contemporary information about said subset from a mobile network comprises requesting contemporary information from a server within the mobile network.

11. The method of claim 1 wherein requesting contemporary information about said subset from a mobile network comprises requesting contemporary information from a server communicatively connected to said mobile network.

12. The method of claim 1 further comprising receiving the contemporary information at the mobile terminal and subsequently locating said mobile terminal based on information received from said subset of position detection assisting devices.

13. The method of claim 12 further comprising reporting the location of the mobile terminal as determined by said locating step.

14. (Canceled)

15. A mobile terminal comprising:

a transceiver;

a control system operatively connected to said transceiver, wherein said control system stores information relating to a plurality of position detection assisting devices within a position detection system and solicits contemporary information from a mobile network via said transceiver relating to a subset of said position detection assisting devices; and

wherein said control system further determines, at said mobile terminal, a subset of the position detection assisting devices which are available from which to determine location based on said information, said subset consisting of only the position detection assisting devices necessary and sufficient from which to determine location, and wherein said control system thereafter causes acquisition of position assisting signals from said subset to be initiated.

16. The mobile terminal of claim 15 wherein said control system determines a present location of the mobile terminal after soliciting said contemporary information.

17. The mobile terminal of claim 15 wherein information relating to a plurality of position detection assisting devices comprises information about a satellite-based position detection system.

18. The mobile terminal of claim 17 wherein said information comprises information relating to a plurality of satellites within a GPS.

19. The mobile terminal of claim 15 wherein said information relating to a plurality of position detection assisting devices comprises information about a terrestrial position detection system.

20. The mobile terminal of claim 15 wherein said information relating to a plurality of position detection assisting devices comprises information relating to a mixed satellite based and terrestrial position detection system.

21. A communication system comprising:

- a server comprising contemporary information relating to a position detection system;

- a mobile network;

- a mobile terminal communicatively connected to said server through said mobile network, said mobile terminal storing local information relating to the position detection system and soliciting a subset of said contemporary information from said server based in part on said local information; and

- wherein said mobile terminal determines a subset of the position detection assisting devices which are available from which to determine location based on said local information, said subset consisting of only the position detection assisting devices necessary and sufficient from which to determine location; and

- wherein said mobile terminal thereafter initiates acquisition of position assisting signals from said subset.

22. The communication system of claim 21 wherein said local information comprises an almanac.

23. The communication system of claim 21 wherein said contemporary information comprises satellite ephemeris.

24. The communication system of claim 21 wherein said mobile terminal determines a number of available position detection assisting devices within the position detection system based on a coarse location of the mobile terminal.

25. The communication system of claim 21 wherein said server forms a part of said mobile network.

26. The communication system of claim 21 wherein said server is communicatively connected to said mobile network.

27. A method of facilitating location detection, comprising:

storing information relating to position detection assisting devices in a mobile terminal;

referencing said information to determine, at said mobile terminal, a subset of the position detection assisting devices which are theoretically visible from which to determine location, wherein referencing said information to determine a subset of the position detection assisting devices which are available comprises determining, by said mobile terminal, a subset consisting of only the position detection assisting devices necessary and sufficient from which to determine location;

after said determining at said mobile terminal, beginning acquisition of position location assistance signals from said subset of the position detection devices;

receiving signals from position detection assisting devices which are actually visible to the mobile terminal; and

requesting contemporary information about the position detection assisting devices which are actually visible from a mobile network.

28. (Canceled)

29. A method of facilitating location detection using a satellite based positioning system, comprising:

evaluating an almanac within a mobile terminal to determine which satellites are theoretically available based on a coarse location and time of the mobile terminal;

securing at the mobile terminal, from a mobile network accurate time information for satellites that are theoretically available;

deriving, at the mobile terminal, doppler and code phase information for the satellites that are theoretically available;

thereafter, acquiring a signal from one or more of the satellites that are theoretically available and, based thereon, determining at the mobile terminal which of said one or more satellites from which signals are acquired from a subset of the theoretically available satellites consisting of only the satellites necessary and sufficient from which to determine location; and

requesting ephemeris information only for those satellites in said subset.

30. The method of claim 29 wherein requesting ephemeris information comprises requesting ephemeris information for only those satellites whose previously stored ephemeris information is stale.

31. The method of claim 29 wherein acquiring a signal comprises evaluating a signal quality measurement.

32. The method of claim 1 wherein said requesting contemporary information occurs prior to said beginning acquisition of position location assistance signals from said subset of the position detection devices.

(9) EVIDENCE APPENDIX

There is no further evidence not contained in the prosecution history.

(10) RELATED PROCEEDINGS APPENDIX

There are no related proceedings.